King County
Department of Development and Environmental Services
Land Use Services Division
900 Oakesdale Avenue Southwest
Renton, Washington 98055-1219
(206) 296-6600 TTY (206) 296-7217

State Environmental Policy Act (SEPA) Checklist

DRAFT

Purpose of the checklist

The State Environmental Policy Act (SEPA), RCW Chapter 43.21 C, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

Instructions for the applicants

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly with the most precise information known, or give the best description you can.

You must answer each question accurately and carefully to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer or if a question does not apply to your proposal, write "do not know" or "does not apply". Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations such as zoning, shoreline and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impacts.

DRAFT

A. Background

1. Name of the proposed project, if applicable:
   Department of Social and Health Services /
   Secure Community Transitional Facility

2. Name of applicant:
   Washington State Department of Social and Health Services
   Lands and Buildings Division

3. Address and phone number of applicant and contact person:
   P.O. Box 45848
   Olympia, WA 98504-5848
   Attention: Mr. John Reynolds, Director
   (360) 902-8154

4. Date checklist prepared:
   March 21, 2003

5. Agency requesting checklist:
   DSHS

6. Proposed timing or schedule (including phasing, if applicable):
   Construction of Phase One would begin in Spring 2004. Phase Two will be built, based on need, at a future date which cannot be determined at this time.

7. Do you have any plans for future additions, expansion or further activity related to or connected with this proposal? If yes, explain.
   The construction of the facility will be in two phases. Phase One construction is planned to include one 6-bed living unit of approximately 2,750 square feet and a Service Building of approximately 900 square feet, plus the fencing, parking lot, access road, and utilities to support the facility. The second Phase would add another 6-bed Living Unit of 2,750 square feet.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.
   The site has been reviewed by a consultant team (KMB) who prepared a Preliminary Site Analysis report dated February 28, 2003. This document is on file at DSHS Lands and Buildings Division, Olympia.

9. Do you know whether applications are pending for government approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.
   None known.

10. List any government approvals or permits that will be needed for your proposal, if known.
RCW 71.09.342 preempts and supersedes local plans, development regulations, permitting and inspection requirements, and all other laws as necessary to enable the department to site, construct, renovate, occupy, and operate secure community transition facilities within the borders of any of six counties, including King County, that have failed to comply with legislatively mandated planning.

Under RCW 71.09.342, King County is preempted because the County did not provide a viable siting process consistent with state law. Nevertheless, the department intends to follow King County's building permit requirements where feasible.

Government permits that will be sought are:
Fire System Permit
Grading and Drainage Permit
Building Permit

11. Give brief complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)
This site is 5.58 acres. It is currently undeveloped. DSHS proposes to construct a 12- bed community transition living facility totaling approximately 6,400 SF in three structures, and to include necessary access drives and a parking area. The proposed facility is to house individuals civilly committed to DSHS for mental health treatment, in a highly supervised community transition program.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.
5300 336th St. Auburn, WA
Section 21 Township 14 Range 4
Parcel #1421049069

This site is south of Highway 18 in unincorporated King County off Peasley Canyon Way. See attached vicinity map.

B. Environmental elements

1. Earth

a. General description of the site (circle or check one):
- ☑ Flat
- ❑ Rolling
- ❑ Hilly
- ☑ Steep slopes
- ❑ Mountainous
- ❑ Other _____

b. What is the steepest slope on the site (approximate percent of slope)?
60 to 70%

c. What general types of soil are found on the site (i.e., clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.
Alderwood and Kitsap soils - generally silt, sands, and small gravel. This soil appears to be like lean concrete, offering excellent support for structures but is almost impermeable. See the geotechnical letter report attached.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so describe.
No, the Bradley-Noble Geotechnical Services letter report indicates that the soils in the area where the structures are proposed are stable and suitable for support of foundations and pavement sections.

e. Describe the purpose, type and approximate quantities of any filling or grading proposed. Indicate source of fill.
Locating the facility on the site will require grading for the structures and the parking facility. No fill is anticipated. Grading would involve approximately 300 cubic yards of material. Any excess materials would be distributed on site.

f. Could erosion occur as a result of clearing, construction or use? If so, generally describe.
Erosion could occur due to the slope of the property. The required setbacks from the steep slope and Best Management Practices will control erosion. Construction entrance, silt fencing, and a sediment pond if necessary, will be installed on the site and be maintained during the period of construction activity.

g. About what percent of the site will be covered with impervious surfaces after project construction (i.e., asphalt or buildings)?
Approximately 10% of the project site would be covered with impervious surfaces. Three quarters of the impervious area will be roadway and parking and one quarter will be building and roof area.

h. Proposed measures to reduce or control erosion or other impacts to the earth, if any:
Erosion control measures will be very effective in controlling erosion during construction. Measures would include silt fence along the west, east and north property lines, covering all soil stockpiles, and seeding disturbed areas as soon as weather permits, in accordance with applicable Best Management Practices recommended and/or required at the time the construction activities begin.

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known?
Construction vehicles and employee/resident vehicles will emit engine exhaust and create dust during construction. Construction would last 6 to 9 months.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.
None are known to exist.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:
Disturbed areas will be watered as needed during construction to control dust.

3. Water

a. Surface:

1. Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, salt water, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.
There is a Class 2 stream, Mill Creek, north of the property in Peasley Canyon. This stream is at the bottom of a steep slope on the north edge of the property. There is a small wetland on the west side of the site. The wetland has been identified as a possible Class 3 wetland that may require a 25' buffer.

2. Will the project require any work over, in or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.
No.

3. Estimate the amount of fill and dredge material that would be placed or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.
No filling of the wetland or removal of material from the wetland would occur.

4. Will the proposal require surface water withdrawals or diversions? Give general description, purpose and approximate quantities if known?
No surface water withdrawals or diversions will occur.

5. Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
No.

6. Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
No. Stormwater would be treated on site using appropriate treatment methods designed for the site and discharged to county regional stormwater facilities located in 336th St. or 53rd Ave., dependent on the roadway improvements required by the County.

b. Ground

1. Will ground water be withdrawn or will water be discharged to ground water? Give general description, purpose and approximate quantities if known.
No water will be withdrawn from the site. An on-site septic system would serve the site. Poor soils and high ground water in the area have triggered a winter water table monitoring for the site. Seattle King County Health Department will review the data and make a determination of the adequacy of the on-site soils. System dosage is anticipated to be a maximum of 1440 gallons per day.

2. Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (i.e., domestic sewage; industrial, containing the following chemicals: . . .; agricultural; etc.) Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.
Domestic sewage will be discharged to a designed septic system on site. The system would be designed to serve up to 12 residents and 12 employees concurrently using the site.

c. Water runoff (including stormwater):

1. Describe the source of runoff (including stormwater) and method of collection and disposal, if any. Include

quantities, if known. Where will this water flow? Will this water flow into other waters? if so, describe.
Stormwater will be collected off the asphalt parking lot and internal roadways. This stormwater will be treated on site and discharged to stormwater conveyance system off site. Off site conveyance will be determined by the roadway improvements selected by the county.

2. Could waste materials enter ground or surface waters? If so, generally describe.
Oil or fuel spills could accidentally occur during construction. The contractor will be required to have a Spill Prevention, Control, and Countermeasures Plan for the duration of the construction project.

d. Proposed measures to reduce or control surface, ground and runoff water impacts, if any:
All disturbed areas will be replanted as soon as practical to reduce stormwater runoff.

4. Plants

a. Check or circle types of vegetation found on the site:
- ☑ Deciduous tree: alder, maple, aspen, other
- ☑ Evergreen tree: fir, cedar, pine, other
- ☑ Shrubs
- ☑ Grass
- ❑ Pasture
- ❑ Crop or grain
- ☑ Wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
- ❑ Water plants: water lily, eelgrass, milfoil, other
- ❑ Other types of vegetation_____

b. What kind and amount of vegetation will be removed or altered?
Himalayan blackberry bushes and some trees, alder and fir will be removed. The fir trees in the north steep slope area of the property will remain, including vegetation within the 50' buffer and 15' development setback areas.

c. List threatened or endangered species known to be on or near the site.
There are no listed or endangered species known to be on or near the site.

d. Proposed landscaping, use of native plants or other measures to preserve or enhance vegetation on the site, if any:
All disturbed areas will be re-vegetated with low maintenance plants that are generally native species.

5. Animals

a. Check or circle any birds and animals which have been observed on or near the site, or are known to be on or near the site:
☑ Birds: hawk, heron, eagle, songbirds, other: Great Blue Heron
☑ Mammals: deer, bear, elk, beaver, other
❑ Fish: bass, salmon, trout, herring, shellfish, other

b. List any threatened or endangered species known to be on or near the site.
None known.

c. Is the site part of a migration route? If so, explain.
None known.

d. Proposed measures to preserve or enhance wildlife, if any:
The stand of trees and undergrowth on the northern portion of the property will be maintained natural. This steep slope area, and the related 50' buffer and 15' development setback from the steep slope will preserve habitat and provide protection for wildlife in the canyon.

6. Energy and natural resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's

energy needs? Describe whether it will be used for heating, manufacturing, etc.
Electric and natural gas energy will be used to heat the facility. Electricity will be used for all other energy requirements.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.
No it would not.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:
The facilities will meet or exceed state guidelines for energy and resource conservation.

7. Environmental health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill or hazardous waste that could occur as a result of this proposal? If so, describe.
In the Phase 1 Environmental Site Assessment performed by Advance Environmental the only potentially hazardous material identified was possible arsenic and lead contamination in the soils from emissions of the Tacoma ASARCO Smelter.

This site lies in the probable contamination plume of ASARCO. Soil sampling was not performed as part of the Phase 1 Analysis.

There is also a potential risk of fire during construction, due to construction operations.

1. Describe special emergency services that might be required:
None are anticipated.

2. Proposed measures to reduce or control environmental health hazards, if any:
If arsenic and lead are found in the soil the Department of Ecology recommends diluting the soil with clean fill dirt, or in extreme cases, having

the contaminated soil removed from the property and bringing in clean fill.

b. Noise

1. What types of noise exist in the area which may affect your project (i.e., traffic, equipment, operation, other)? **This is a residential neighborhood. There is no significant noise or traffic currently.**

2. What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (i.e., traffic, construction, operation, other)? Indicate what hours noise would come from the site. **In the short term, construction noise and vehicle traffic would be increased. Construction activities would occur during daylight hours. Long term, once the project is built, there would be an increase in the traffic to the site. The increase in traffic could marginally increase noise levels, but no noise-producing activities are associated with the use.**

8. Land and shoreline use

a. What is the current use of the site and adjacent properties?
The site is currently vacant. The adjacent properties are residential.

b. Has the site been used for agriculture? If so, describe.
The site has not been used for agriculture.

c. Describe any structures on the site.
There are no structures on the site.

d. Will any structures be demolished? If so, what?
NA

e. What is the current zoning classification of the site?
Current zoning is R-1.

f. What is the current comprehensive plan designation of the site?
Comprehensive Plan land use designation is Urban.

g. If applicable, what is the current shoreline master program designation of the site?
NA

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.
The county has designated the northern slope of the property as a Sensitive Area - Landslide Area.

i. Approximately how many people would reside or work in the completed project?
Twelve residents maximum would reside at the facility. Total employment is estimated at 48.5 FTE. It is forecast that up to 12 employees would be working at any one time.

j. Proposed measures to avoid or reduce displacement impacts, if any:
NA

k. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:
King County adopted an ordinance in October 2002 "to preclude the siting of a secure community transition facility in unincorporated King County." Passing this ordinance permitted the State to consider the preemption of the King County Council decision as authorized in RCW 71.09.342. If a local government precludes the siting of an essential public facility or does not create a zoning ordinance that specifies where a secure community transition facility should be sited, the State may preempt local government authority and select a site for the facility.

King County is preempted under RCW 71.09.342 because the county has not provided a viable siting process consistent with state law. However, the department makes every effort to consult with the local jurisdiction throughout the siting process.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle or low-income housing.
The proposed facility is to house individuals civilly committed to DSHS for mental health treatment, in a community transition program. It will not provide housing for the general public. Up to 12 residents will be accommodated.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle or low-income housing.
None would be eliminated.

c. Proposed measures to reduce or control housing impacts, if any:
This project would not have a housing impact.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas? What is the principal exterior building material(s) proposed?
The proposed structures will be one-story in height, having exterior siding and composition shingle roofing as is typical to residential buildings in the region.

b. What views in the immediate vicinity would be altered or obstructed?
No views will be obstructed.

c. Proposed measures to reduce or control aesthetic impacts, if any:
The proposed site will be landscaped. Currently blackberries are the predominant vegetation on the flat portion of the site where construction is planned.

11. Light and glare

a. What type of light and glare will the proposal produce? What time of day would it mainly occur?
On site lighting will be necessary within the parking area and walkways and around the buildings, for security and safety. Lighting will be energy-efficient metal halide or fluorescent type. Lighting will be needed from sunset to sunrise.

b. Could light or glare from the finished project be a safety hazard or interfere with views?
Not anticipated.

c. What existing off-site sources of light or glare may affect your proposal?
None known.

d. Proposed measures to reduce or control light and glare impacts, if any:
Fixtures will be carefully placed and selected to minimize glare and transmission of light off of the site.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?
None in the immediate area.

b. Would the proposed project displace any existing recreational uses? If so, describe.
No.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:
NA

13. Historic and cultural preservation

a. Are there any places or objects listed on, or proposed for national, state or local preservation registers known to be on or next to the site? If so, generally describe.
None are known to exist on or next to the site.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific or cultural importance known to be on or next to the site.
None are known to exist on or next to the site.

c. Proposed measures to reduce or control impacts, if any:
If objects of cultural significance are identified during construction the contractor will be instructed to notify appropriate authorities and cease all work in the area.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.
336th Street and 53rd Ave. South serve the site. These streets are located off of Peasley Canyon Way south of Highway 18.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?
The nearest transit stop is at 342nd and Military Road South, over 0.6 miles from the site. This is Metro Transit System Route 181, which goes to the Federal Way Park and Ride, where transfers can be made.

c. How many parking spaces would the completed project have? How many would the project eliminate?
Twenty parking spaces would be added by the project for employee parking and State vehicle parking. There are no existing parking spaces so none would be eliminated.

d. Will the proposal require any new roads or streets or improvements to existing roads or streets, not including

driveways? If so, generally describe (indicate whether public or private).
The county will require Concurrency for this project. Road improvements will be determined through the county review process.

e. Will the project use (or occur in the immediate vicinity of) water, rail or air transportation? If so, generally describe.
No.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.
At full build-out and occupancy up to 100 trips per day could be generated by the project. Peak volumes will likely occur at staff shift changes, which have not yet been established.

g. Proposed measures to reduce or control transportation impacts, if any:
Carpooling for staff will be encouraged to reduce the number of trips. The resident transportation will be reduced to the extent possible by combining trips where feasible.

15. Public services

a. Would the project result in an increased need for public services (i.e., fire protection, police protection, health care, schools, other)? If so, generally describe.
No. (See 15.b. below)

b. Proposed measures to reduce or control direct impacts on public services, if any:
The program will provide security safeguards in the residential facility. Staff will be present 24-hours each day of the week. The ratio of staff to residents will be one-to-one during the sixteen normal waking hours, and two-to-three during the eight normal sleeping hours. During anytime that a resident is away from the facility, the resident will have a one-to-one escort unless otherwise ordered by the court of commitment. The facility will be equipped with

fire and security alarm systems, as well as security cameras. All of these systems will have a back-up power capability. Residents will wear individual monitoring devices 24-hours a day, unless the court of commitment orders otherwise.

16. Utilities

a. Check or circle utilities currently available at the site:
- ☑ Electricity
- ☑ Natural gas
- ☑ Water
- ☑ Refuse service
- ☑ Telephone
- ❑ Sanitary sewer
- ❑ Septic system
- ❑ Other _____

b. Describe the utilities that are proposed for the project, the utility providing the service and the general construction activities on the site or in the immediate vicinity which might be needed.
A new onsite septic system will be designed for the project requirements, contingent on the winter monitoring that is currently being done at the site.

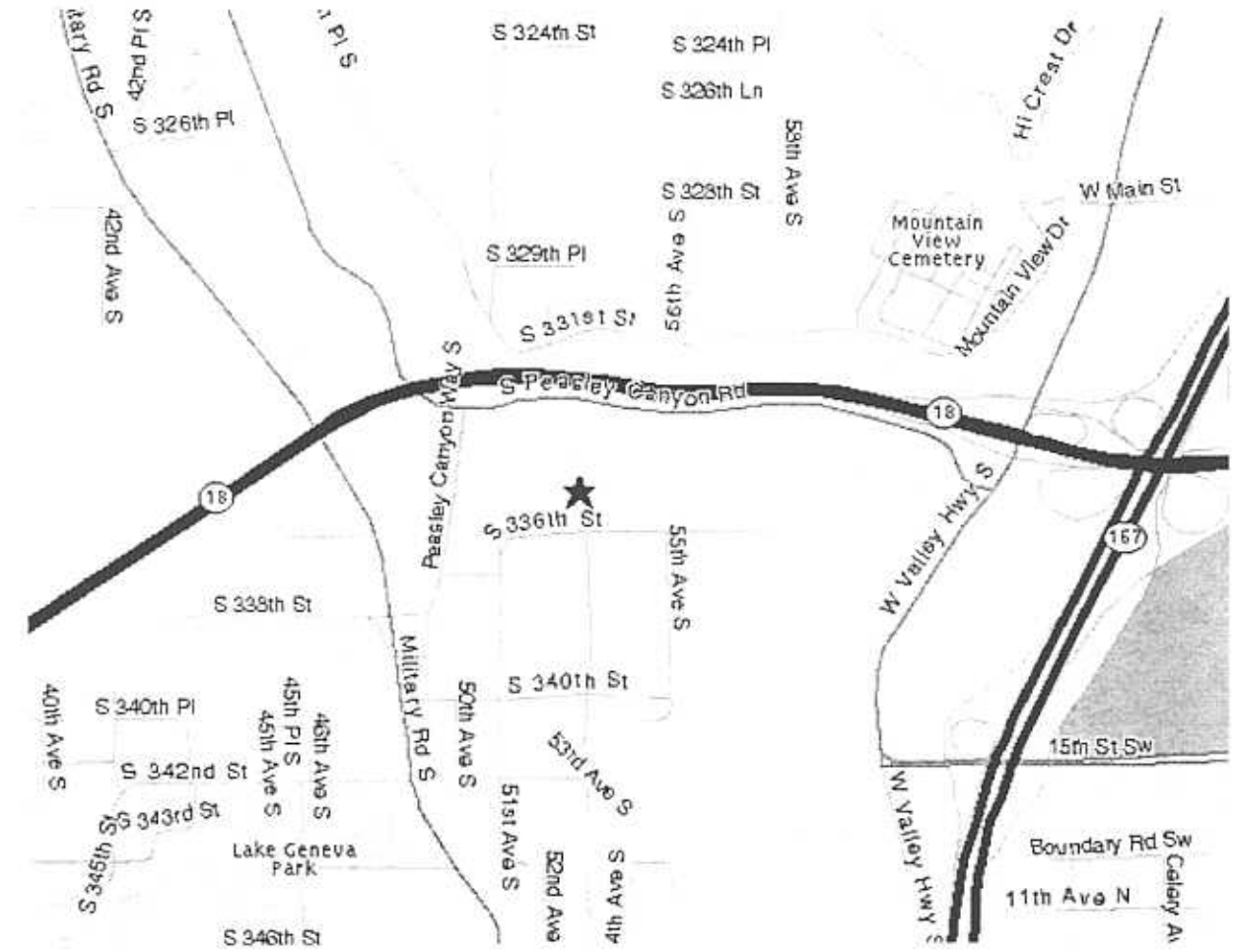
Water service is available from the Lakehaven Utility District, which operates a water main that runs along 336th St. The project will require power, natural gas, telephone, cable TV, and cellular telephone service. Those services will need to be extended onto the site.

C. Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: _____

Date submitted: _____



PURPOSE: DSHS SECURE COMMUNITY TRANSITIONAL FACILITY
PROJECT COORDINATES: 47° 18' 3.2" N
122° 16' 8.4" W
(NAD 27)
VERTICAL DATUM: NGVD29

LEGAL DESCRIPTION:
PARCEL NO. 1421049069
SECTION 21, TOWNSHIP 14 N., R4 W.M.
KING COUNTY, WASHINGTON

VICINITY MAP

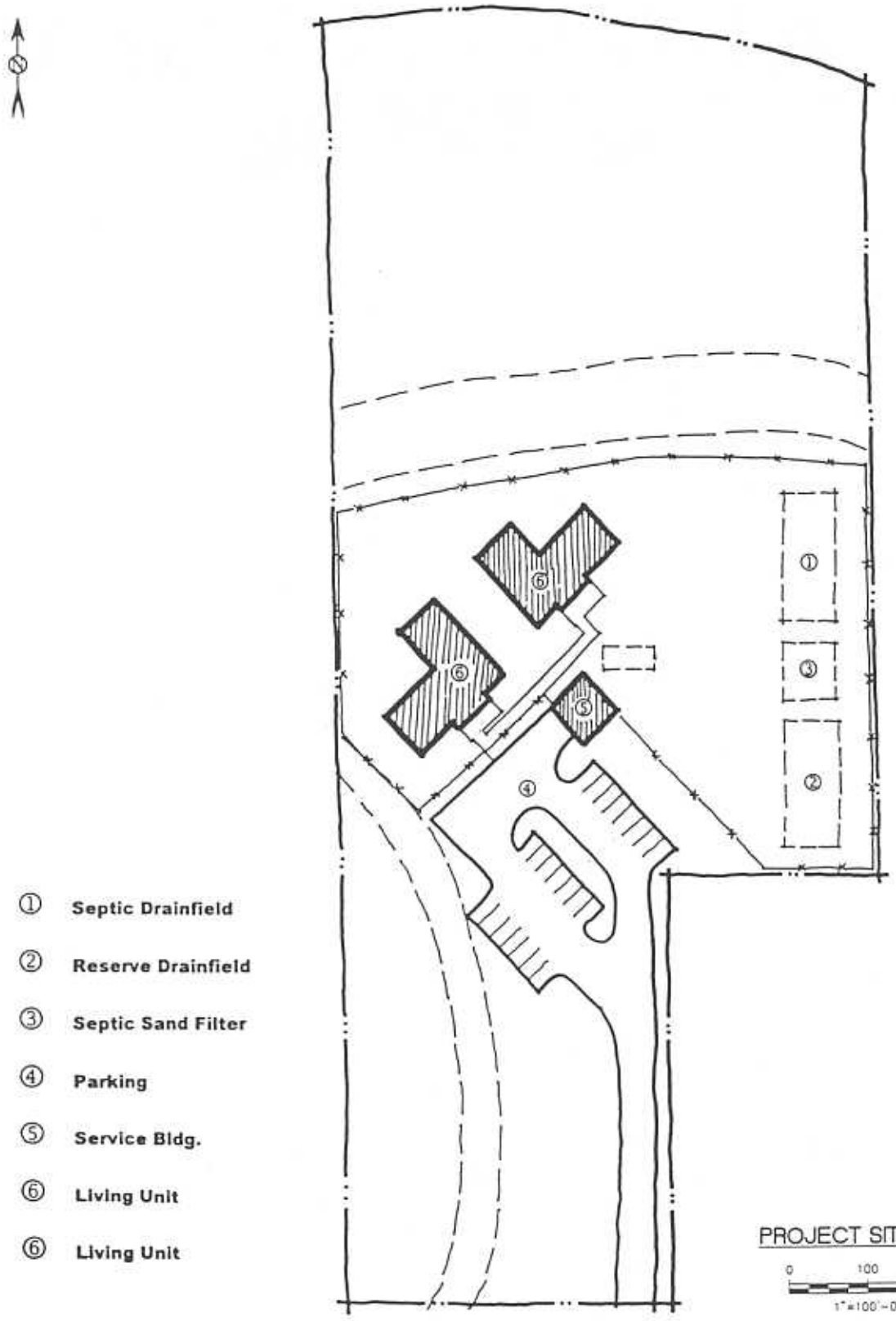
DSHS
PEASLEY CANYON SITE

5300 336TH STREET
AUBURN, WA 98001

PROPOSED:
CONSTRUCT
SECURE COMMUNITY TRANSITIONAL FACILITY

AT: UNICORPORATED KING COUNTY
COUNTY OF: KING STATE: WA.
APPLICATION BY: DSHS

SHEET 1 OF 2 DATE: FEBRUARY 2003



① Septic Drainfield

② Reserve Drainfield

③ Septic Sand Filter

④ Parking

⑤ Service Bldg.

⑥ Living Unit

⑥ Living Unit

PROJECT SITE PLAN

0 100 200

1"=100'-0"

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PROJECT COORDINATES: 47° 18' 3.2" N
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LEGAL DESCRIPTION:
PARCEL NO. 1421049069
SECTION 21, TOWNSHIP 14 N., R4 W.M.
KING COUNTY, WASHINGTON

CONCEPTUAL SITE PLAN

DSHS
PEASLEY CANYON SITE

5300 336TH STREET
AUBURN, WA 98001

PROPOSED:
CONSTRUCT
SECURE COMMUNITY TRANSITIONAL FACILITY

UNICORPORATED KING COUNTY
COUNTY OF: KING STATE: WA.
APPLICATION BY: DSHS

SHEET 2 OF 2 DATE: FEBRUARY 2003

Bradley-Noble Geotechnical Services
A Division of The Bradley Group, Inc.
PO Box 12267, Olympia WA 98508-2267
Phone 360-357-7883 • FAX 360-867-9307

15 January 2003

Mr. Steven Anderson, AIA
KMB Design-Development, Inc.
828 7th Avenue SE
Olympia, Washington 98501-1509

Subject: Preliminary geologic evaluation of the DSHS SCTF site at 5300 South 336th Street, Auburn, Washington.

Dear Mr. Anderson:

As requested, we have conducted a preliminary evaluation of the above site. Our scope of work has consisted of a site visit, research into the area geology and soils, and preparation of this letter presenting our observations and research. We understand that the site development will consist of one- or two-story wood-frame structures with associated parking. On-site infiltration of storm water and effluent may be required.

Soils are described using the Soil Conservation Services (SCS) identification as well as standard geologic soil classification. The Soil Conservation Service has prepared a soil survey of King County in their November 1973 publication, Soil Survey of King County Area by Snyder, Gale, and Pringle in cooperation with the Washington Agricultural Experiment Station. Volume One contains a discussion of soil morphology and information of the area use. Volume two presents the mapped areas.

The project is located on the upland area to the west of Auburn. On the site is an existing two-story wood frame residence with associated landscaping areas. The balance of the property is covered by low growing brush. The site is of low relief with a gentle slope down to the west. At the north end of the property, we found a steep slope down into Peasley Canyon. This steep slope has the appearance of stability. We do recommend a minimum setback for development adjacent

to this slope of at least 75 feet from average top of slope. This will protect the development, as there is always a risk of dicing of soils from the steep slope face.

The SCS identifies the soils series as AkF in the steep slope and AgC in the upland area. This classifies the soils as Alderwood and Kitsap that form the slope. Alderwood soil series forms the upland area. The geologic soil classification is for a thin layer of Vashon recessional outwash soils over very dense and highly overconsolidated Vashon subglacial till. Cropping out in the canyon slope face, we find soils that are older than Vashon age till and are associated with non-glacial and non-marine deposition.

The outwash soils at this site are thin, less than three feet in thickness on average as exposed in the open test pits. The test pits excavated on this site were terminated in the subglacial till. Subglacial till is a mixture of silt, sand, and small gravel that was deposited at the base of the advancing Vashon continental ice sheet as it moved into the Puget Sound Lowland, about 14,000 years ago. The grain size distribution and loading by the ice sheet, thought to have been about one-half to one mile thick in this area, has created a soil unit that has many engineering properties similar to those of lean concrete. The underlying soils older than Vashon age are also overconsolidated due to loading by the ice sheet. The subglacial till has many engineering properties similar to those of lean concrete. It offers excellent support for structures, but is for all practical purposes impermeable.

We observed water standing in the test pits where the test pit was extended into the till. Water flows at the contact of the outwash soils and subglacial till during periods of heavy or prolonged rainfall. The excavation into the till has created small "bath tubs" that pond water. The water level rises until the water once again encounters the outwash soils and the water can once again flow downslope. Our experience is that attempting to penetrate the till layer to find a permeable soil layer for infiltration is generally unsuccessful. With the relatively thin permeable soils at this site, infiltration of storm water or effluent will be difficult.

Both the outwash soils and till contain plastic fines and will "mud up" rapidly if worked during rainy periods. While these soils offer good to excellent support for foundations and paving sections, site work requires dry weather in order to control moisture contents and allow site grading, compaction, and control of silt laden water from leaving the site. We recommend that site development work at this site be limited to the dry season, generally mid-May to mid-September.

Based on our review of the site and geologic information, we do not consider slope stability to be an issue at this site using the recommended setback from the steep slope into Peasley Canyon. Storm water must be managed to prevent concentrated flows downslope towards the adjacent residence to the west. Concentrated flow of storm water must not be directed over the steep slope as this can create areas of localized saturation and induce slope instability. We do not consider the site to be a seismic hazard area.

If you have any questions, or if we may be of additional service to you on this project, please contact us at our Olympia office.

Cordially,

BRADLEY-NOBLE GEOTECHNICAL SERVICES

David C. Strong, L.E.G.